WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a bit line extending in a first direction;

a plurality of transistors electrically connected to the bit line;

a plurality of first electrodes arranged in the first direction and electrically connected to the transistors;

a dielectric film covering upper and side surfaces of the first electrodes; and

a second electrode covering the dielectric film,

wherein a width of the first electrode is smaller than a distance between adjacent first electrodes and smaller than the minimum value of design rule of the semiconductor device.

2. The device according to claim 1, wherein an angle defined by a line parallel to the first direction and a line parallel to a longitudinal direction of the first electrode is larger than 0° and smaller than 90°.

3. The device according to claim 2, wherein the angle is 45°.

4. The device according to claim 1, wherein the minimum value of the design rule corresponds to the minimum width of the bit line.

5. The device according to claim 1, wherein the width of the first electrode is smaller than the minimum width determined by lithography process.

6. The device according to claim 1, wherein the width of the first electrode is smaller than a height of the first electrode.

7. A method of manufacturing a semiconductor device, comprising:

forming a first film on a substrate including a bit line extending in a first direction and a plurality of transistors electrically connected to the bit line;

patterning the first film to form a plurality of trenches;

forming second films on side surfaces of the trenches to narrow the trenches;

forming, in the narrowed trenches, a plurality of first electrodes arranged in the first direction and electrically connected to the transistors;

removing the first film and the second films;

forming a dielectric film covering upper and side surfaces of the first electrodes; and

forming a second electrode covering the dielectric film.

8. The method according to claim 7, wherein forming the second films on the side surfaces of the trenches is carried out using anisotropic etching.

9. The method according to claim 7, wherein a width of the first electrode is smaller than a distance between adjacent first electrodes and smaller than the minimum value of design rule of the semiconductor

device.

10. A method of manufacturing a semiconductor device, comprising:

forming a first film on a substrate including a bit line extending in a first direction and a plurality of transistors electrically connected to the bit line;

patterning the first film to form a plurality of trenches;

forming second films made of conductive material on side surfaces of the trenches;

removing the first film;

patterning the second films to form a plurality of first electrodes arranged in the first direction and electrically connected to the transistors;

forming a dielectric film covering upper and side surfaces of the first electrodes; and

forming a second electrode covering the dielectric film.

11. The method according to claim 10, wherein forming the second films on the side surfaces of the trenches is carried out using anisotropic etching.

12. The method according to claim 10, wherein a width of the first electrode is smaller than a distance between adjacent first electrodes and smaller than the minimum value of design rule of the semiconductor device.